

**ABSTRACT OF THE DISCLOSURE**

The inventors propose herein a novel band filter design for planar lightwave circuits. In one embodiment of the present invention, the band filter  
5 includes two waveguide grating routers interconnected by a third waveguide grating, wherein waveguides comprising the third waveguide grating have unequal path lengths. In addition, the waveguides in the third grating are partitioned into sets of adjacent waveguides wherein each set corresponds to a particular wavelength band for the filter. The individual sets of waveguides are  
10 spaced at their connection to the second waveguide grating router such that optical signals within predetermined, different optical wavelength bands are routed to different output ports of the band filter. Some of the advantages of this novel band filter include compactness, sharp passband corners, low spectral ripple, and a lack of chromatic dispersion.